REMARKS

Claims 1-76 are pending.

Claims 1-76 stand rejected.

Claims 1-12, 14-30, 33-36, 39-57, 65, and 70-71 have been amended.

Claims 38, 58-60, 62, and 66-69 have been cancelled without prejudice or disclaimer of the subject matter recited therein.

Claims 77-80 have been added.

Claim Rejections - 35 U.S.C. § 101

Claims 1-76 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. The Office Action on p. 2, para. 2 states that "Claims 1-76 are not claimed to be practiced on a computer, therefore, it is clear that the claims are not limited to practice in the technological arts. On that basis alone they are clearly non-statutory." The Office Action on p. 2, para. 3 states that "Regardless of whether any of the claims are in the technological arts, none of them is limited to practical applications in the technological arts."

In light of the amendments to the claims and the remarks set forth herein, Applicants respectfully traverse the rejection.

The Federal Circuit in *AT&T* affirmed that "A mathematical formula <u>alone</u>, sometimes referred to as a mathematical algorithm, <u>viewed in the abstract</u>, is considered unpatentable subject matter." *AT&T v. Excel Communications, Inc.,* 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999) (emphasis added). The Federal Circuit explained that the Supreme Court "never intended to create an overly broad, fourth category of [mathematical] subject matter excluded from § 101." *In re Alappat*, 31 USPQ2d 1545 (Fed. Cir. 1994). "Rather, at the core of the Court's analysis . . . lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, <u>standing alone</u>, represent nothing more than <u>abstract ideas</u> <u>until reduced to some type of practical application</u>, and thus that subject matter is not, in and of

itself, entitled to patent protection." *Id.*, 31 USPQ2d 1545 (Fed. Cir. 1994) (emphasis added). "Thus, the *Alappat* inquiry simply requires an examination of the contested claims to see if the claimed subject matter <u>as a whole</u> is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," <u>or if the mathematical concept has been reduced to some practical application rendering it "useful.</u>" *AT&T*, 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999) (emphasis added). For example, in *AT&T* the Federal Circuit cited *State Street* as an example of a "claimed data processing system for implementing a financial management structure [that] satisfied the § 101 inquiry because it constituted a "practical application of a mathematical algorithm, . . . [by] produc[ing] `a useful, concrete and tangible result." *AT&T*, 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999), *citing, State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 47 USPQ2d 1596, 1602 (Fed. Cir. 1998), *cert. denied*, 119 S. Ct. 851 (1999).

The Examiner rejected claims 1-76 under 35 U.S.C. § 101 because the claims are "not limited to practice in the technological arts" and "none of them is limited to practical applications in the technological arts." Office Action, p. 2, paras. 2-3. More specifically, the Examiner "finds that Applicant's "test case" references are just such abstract ideas." *Id.*, para. 3. The Examiner also stated that "Applicant cites no such specific results to define a useful, concrete and tangible result." *Id.*, para. 7. "Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used." *Id.* The Examiner further stated that "the Examiner finds that Applicant manipulated a set of abstract "test cases" to solve purely algorithmic problems in the abstract (i.e. what *kind* of "test case" is used)?" The Examiner also stated that "Since the claims are not limited to <u>exclude</u> such abstractions, the broadest reasonable interpretation of the claim limitations <u>includes</u> such abstractions." *Id.*, para. 11. "Therefore, the claims are impermissibly abstract under 35 U.S.C. § 101 doctrine." *Id.*

As explained below, Applicants respectfully submit that the claims of the present application meet the statutory requirements of 35 U.S.C. § 101. Applying Federal Circuit law to the subject matter of the claims of the present application, to determine if the claims are non-statutory under 35 U.S.C. § 101 first "requires an examination of the contested claims to see if the claimed subject matter <u>as a whole</u> is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been reduced to some practical application rendering it "useful." *AT&T*, 50 U.S.P.Q.2d 1447

(Fed. Cir. 1999). The Examiner has asserted that "Applicant's "test case" references are just such abstract ideas." Initially, Applicants respectfully submit that "test cases" are not merely abstract ideas. The Examiner asked "what *kind* of "test case" is used?" prior to stating that "Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions." Office action, paras. 10-11. This appears to be a question of scope outside the sphere of 35 U.S.C. § 101. The specification provides illustrative support for the term "test case", and the independent claims recite a specific type of test case, i.e. "a test case … to detect configuration errors in the product configuration." Furthermore, the recited test case "includes data to change the product configuration." Claims 1, 14, 27, and 70. (Note: the present invention is limited by the claims and not by specific embodiments set forth in the description). Thus, the "test case" is not an abstract idea.

Even assuming *arguendo* that "test case" is an abstract idea, under Federal Circuit law that does not make a claim *per se* non-statutory under 35 U.S.C. § 101. The correct inquiry is whether the "claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been reduced to some practical application rendering it "useful." *AT&T,* 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999) (emphasis added). The Supreme Court in *Diamond v. Diehr* explicitly distinguished Diehr's process by pointing out that "the respondents here do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of curing synthetic rubber." *Diamond v. Diehr,* 450 U.S.175, 187 (1981). "The Court then explained that although the process used a well- known mathematical equation, the applicants did not "pre-empt the use of that equation." *AT&T,* 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999), *citing Diehr*, 45 U.S. at 187. "Thus, even though a mathematical algorithm is not patentable in isolation, a process that applies an equation to a new and useful end "is at the very least not barred at the threshold by § 101." *AT&T,* 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999), *citing Diehr*, 45 U.S. at 188. Likewise, the claims of the present application do not seek to patent a "test case" in isolation, i.e. in the abstract, and, thus, do not claim "a disembodied mathematical concept." *AT&T,* 50 U.S.P.Q.2d 1447 (Fed. Cir. 1999). To the contrary, rather than claiming a test case in the abstract, independent claims 1, 14, 27, and 70 recite a specific test case in the context of processes (claim 1) and components (claims 14, 27, and 70) to "test a product configuration for configuration

errors," "detect a configuration error", and "generat[e] explanation data." Specifically, claim 1 recites:

> A method of using a computer system to test a product configuration for configuration errors, wherein the product configuration is stored as electronic data in a computer system for generating product configurations, the computer system including at least one rule defining a relationship between at least two parts, the product configuration including a plurality of parts, the method comprising:
>> entering a test case into the computer system to detect configuration errors in the product configuration, wherein the test case includes data to change the product configuration;
>> processing the test case with the computer system in accordance with the at least one rule to detect whether the change in the product configuration, as a result of processing the test case in accordance with the at least one rule, produced a configuration error in the product configuration; and
>> generating explanation data with the computer system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 14 recites:

> A computer program product having code embodiment therein to cause a processor to test a product configuration for configuration errors, wherein the product configuration is stored as electronic data in a computer system, the computer system including at least one rule defining a relationship between at least two parts, the product configuration including a plurality of parts, the code comprising:
>> computer readable program code configured to cause the computer system to allow a user to enter a test case into the computer system to detect configuration errors in the product configuration, wherein the test case includes data to change the product configuration;
>> computer readable program code configured to cause the computer system to process the test case with the computer system in accordance with the at least one rule to detect whether the change in the product configuration, as a result of processing the test case in accordance with the at least one rule, produced a configuration error; and
>> computer readable program code configured to cause the computer system to generate explanation data with the computer system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 27 recites:

An apparatus for testing a product configuration for configuration errors generated by a product configuration system, comprising:

a memory having stored therein at least one rule defining a relationship between at least two parts in the product configuration;

a test case to detect configuration errors in the product configuration, wherein the test case includes data to change the product configuration; and

a processor coupled to the memory to (a) process the at least one rule and the test case, (b) detect whether the change in the product configuration, as a result of processing the test case in accordance with the at least one rule, produced a configuration error and (c) generate explanation data to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 70 recites:

An apparatus for testing a product configuration for configuration errors generated by a computer implemented product configuration system, comprising:

means for defining a relationship between at least two parts in the product configuration;

means for defining a test case to detect configuration errors in the product configuration, wherein the test case includes data to change the product configuration; and

means for processing the test case with the product configuration system in accordance with the at least one rule to detect whether the change in the product configuration, as a result of processing the test case in accordance with the relationship between at least two parts in the product configuration, produced a configuration error in the product configuration; and

means for generating explanation data with the product configuration system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Furthermore, each of independent claims provide "a new and useful end" and, thus, are not barred by 35 U.S.C. § 101. *quoting Diehr*, 45 U.S. at 188. Claim 1 recites specific processes that produce a new, useful, concrete, and tangible end:

processing the test case with the computer system in accordance with the at least one rule to detect whether the change in the product configuration ... produced a configuration error in the product configuration; and

generating explanation data with the computer system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 14 recites specific computer readable program code that produces a new, useful, concrete, and tangible end:

> ... to process the test case with the computer system in accordance with the at least one rule to detect whether the change in the product configuration, as a result of processing the test case in accordance with the at least one rule, produced a configuration error; and
> ... to cause the computer system to generate explanation data with the computer system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 27 recites specific components that produce a new, useful, concrete, and tangible end:

> ... a processor coupled to the memory to (a) process the at least one rule and the test case, (b) detect whether the change in the product configuration ... produced a configuration error and (c) generate explanation data to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Claim 70 also recites specific components that produce a new, useful, concrete, and tangible end:

> means for processing the test case with the product configuration system in accordance with the at least one rule to detect whether the change in the product configuration ... produced a configuration error in the product configuration; and
> means for generating explanation data with the product configuration system to provide an explanation of any detected configuration error in the product configuration. (emphasis added).

Thus, the claims of the present invention "test a product configuration for configuration errors" using processes and components that provide a new and useful end and have practical application, which conforms with the statutory requirements of 35 U.S.C. § 101 as supported by Federal Circuit case law.

Applicants respectfully submit that claims dependent upon independent claims 1, 14, 27, or 70, directly or indirectly, meet the statutory requirements of 35 U.S.C. § 101 for at least the same reasons as the independent claim upon which each depends.

Accordingly, withdrawal of the 35 U.S.C. § 101 rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 112

"Claims 1-76 are rejected under 35 U.S.C. § 112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a 101 rejection is given." Office action, p. 8.

Since the basis for the 35 U.S.C. § 112, first paragraph rejection is essentially the same as the rejection under 35 U.S.C. § 101, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, first paragraph rejection for at least the same reasons as those presented pursuant to the 35 U.S.C. § 101 rejection.

Serial No. 09/773,101

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.

Respectfully submitted,

Kent B. Chambers
Attorney for Applicant(s)
Reg. No. 38,839